

Atty. Docket No. YOR920010072US1  
(590.044)

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. **(Currently Amended)** A method of facilitating speech recognition, said method comprising the steps of:  
  
obtaining speech input data;  
  
building a model for each feature of an original set of linguistic features;  
  
ranking the linguistic features; and  
  
rebuilding a the model for each of a preselected number N of the ranked linguistic features.
2. **(Original)** The method according to Claim 1, wherein said step of building a model for each of a preselected number N of the ranked features comprises building a model for the top N ranked features.
3. **(Original)** The method according to Claim 1, further comprising the step of compiling a confusion matrix for each feature of the original set of features subsequent to said step of building a model for each feature of an original set of features.

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4. (Original) The method according to Claim 3, wherein said step of compiling a confusion matrix comprises computing a score for each feature based on the likelihood of its presence in a frame of the speech input data.

5. (Original) The method according to Claim 4, wherein said step of computing a score for each feature comprises computing a score as a log-likelihood ratio.

6. (Original) The method according to Claim 4, wherein said step of compiling a confusion matrix further comprises comparing each score of each feature with a threshold.

7. (Original) The method according to Claim 4, wherein said step of compiling a confusion matrix further comprises calculating mutual information between truth and labels for each feature.

8. (Original) The method according to Claim 7, wherein said ranking step comprises ranking the mutual information calculated in compiling the confusion matrix.

9. (Original) The method according to Claim 1, wherein said step of building a model for each feature of an original set of features comprises:

partitioning the speech input data in parallel, once for each feature; and

producing an observation vector.

10. (Original) The method according to Claim 9, wherein said step of building a model for each feature of an original set of features comprises:

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partitioning data in parallel from the observation vector, once for each feature; and  
producing final observations.

11. **(Original)** The method according to Claim 1, wherein said step of building a model for each of a preselected number N of the ranked features comprises:

partitioning the speech input data in parallel, once for each feature; and  
producing an observation vector.

12. **(Original)** The method according to Claim 11, wherein said step of building a model for each of a preselected number N of the ranked features comprises:

partitioning data in parallel from the observation vector, once for each feature; and  
producing final observations.

13. **(Currently Amended)** An apparatus for facilitating speech recognition, said apparatus comprising:

an input medium which obtains speech input data;

a first model builder which builds a model for each feature of an original set of linguistic features;

a ranking arrangement which ranks the linguistic features; and

a second model builder which rebuilds a the model for each of a preselected number N of the ranked linguistic features.

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14. (Original) The apparatus according to Claim 13, wherein said second model builder is adapted to build a model for the top N ranked features.

15. (Original) The apparatus according to Claim 13, further comprising a matrix compiler which compiles a confusion matrix for each feature of the original set of features subsequent to the building of a model for each feature of an original set of features.

16. (Original) The apparatus according to Claim 15, wherein said matrix compiler is adapted to compute a score for each feature based on the likelihood of its presence in a frame of the speech input data.

17. (Original) The apparatus according to Claim 16, wherein said matrix compiler is adapted to compute a score for each feature as a log-likelihood ratio.

18. (Original) The apparatus according to Claim 16, wherein said matrix compiler is further adapted to compare each score of each feature with a threshold.

19. (Original) The apparatus according to Claim 16, wherein said matrix compiler is further adapted to calculate mutual information between truth and labels for each feature.

20. (Original) The apparatus according to Claim 19, wherein said ranking arrangement is adapted to rank the mutual information calculated in compiling the confusion matrix.

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21. **(Original)** The apparatus according to Claim 13, wherein said first model builder is adapted to:

partition the speech input data in parallel, once for each feature; and

produce an observation vector.

22. **(Original)** The apparatus according to Claim 21, wherein said first model builder is further adapted to:

partition data in parallel from the observation vector, once for each feature; and

produce final observations.

23. **(Original)** The apparatus according to Claim 13, wherein said second model builder is adapted to:

partition the speech input data in parallel, once for each feature; and

produce an observation vector.

24. **(Original)** The apparatus according to Claim 23, wherein said second model builder is further adapted to:

partition data in parallel from the observation vector, once for each feature; and

produce final observations.

25. **(Currently Amended)** A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform

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method steps for speech recognition, said method comprising the steps of:

obtaining speech input data;

building a model for each feature of an original set of linguistic features;

ranking the linguistic features; and

rebuilding a the model for each of a preselected number N of the ranked linguistic features.